Claims:

1.   An interface apparatus comprising first and second devices, each having a series of ports for connection to a common packet transfer bus associated with a controller, said devices operating in parallel and being configured so that when one is in an active mode the other is in a warm stand-by mode ready to become active in the event of failure of the active device, said ports of the device in the active mode communicating normally with said controller to initiate transfer of said packets over said packet transfer bus, and said ports of said device in the standby mode being inoperative to communicate with said controller to initiate packet transfer or to transfer packets onto said packet transfer bus, but otherwise operating normally so as to be ready for immediate activation in the event of failure of said active device.

2.   An interface apparatus as claimed in claim 1, wherein said ports of said device in the standby mode are operative to receive from the common packet transfer bus packets whose transfer is initiated in response to a communication between the controller and the ports of the active device.

3.   An interface apparatus as claimed in claim 2, wherein said common packet transfer bus is a Utopia bus transferring ATM cells.

4.   An interface apparatus as claimed in claim 3, wherein devices also include a second set of ports connected to a common time division multiplexed (TDM) bus.

5.   An interface apparatus as claimed in claim 4, wherein said second set of ports of both the standby and active devices are configured in the receive direction to be in the active state so that data are received in parallel by both said devices from the TDM bus.

6.   An interface apparatus as claimed in claim 5, wherein output pins of said second set of ports of the standby device are configured in the transmit direction to be in the inactive state so that data from said output pins are not transmitted onto the TDM bus

7.   An interface apparatus as claimed in claim 6, wherein said devices are inverse multiplexers transferring cells between said Utopia bus and a plurality of TDM links forming said TDM bus.

7

8.   An interface apparatus as claimed in claim 7, wherein at least one of said standby and active devices have additional ports operating normally.

9.   An interface apparatus comprising a series of ports for connection to a common packet transfer bus associated with a controller, at least some of said ports being in an active mode and at least some of said ports being in a standby mode, said ports in the active and standby modes operating in parallel and being configured so that when one is in an active mode a corresponding standby port in a warm stand-by mode ready to become active in the event of failure of the active port, said ports in the active mode communicating normally with said controller to initiate transfer of said packets over said packet transfer bus, and said ports in the standby mode being inoperative to communicate with said controller to initiate packet transfer or to transfer packets onto said packet transfer bus, but otherwise operating normally so as to be ready for immediate activation in the event of failure of the corresponding active port.

10.   An interface apparatus as claimed in claim 9, wherein said ports in the standby mode are operative to receive from the common packet transfer bus packets whose transfer is initiated in response to a communication between the controller and the ports in the active mode.

11.   An interface apparatus as claimed in claim 10, wherein said common packet transfer bus is a Utopia bus transferring ATM cells.

12.   An interface apparatus as claimed in claim 11, wherein devices also include a second set of ports connected to a common time division multiplexed (TDM) bus.

13.   A method of providing redundancy in an interface apparatus for transferring data to and from a high speed packet transfer bus associated with a controller, comprising providing a series of ports for connection to the common packet transfer bus, configuring a redundant port operating in standby mode for each active port, configuring said active ports to communicate normally with said controller to initiate transfer of said packets over said packet transfer bus, and configuring said standby ports to be inoperative to communicate with said controller to initiate packet transfer or to transfer packets onto said bus, but otherwise to operate normally so as to be ready for immediate activation in the event of failure of a corresponding active port.

14.   A method as claimed in claim 13, wherein said standby ports receive from the common packet transfer bus packets whose transfer is initiated in response to a communication between the controller and the active ports.

15.   A method as claimed in claim 14, wherein said common packet transfer bus is a Utopia bus transferring ATM cells.

16.   A method as claimed in claim 15, wherein a second set of ports transfer data to and from a common time division multiplexed (TDM) bus.

17.   A method as claimed in claim 17, wherein the second set of ports of both the standby and active devices in the receive direction are in the active state so that data are received in parallel by both said devices from the TDM bus.

18.   A method as claimed in claim 17, wherein output pins of said second set of standby ports in the transmit direction are in the inactive state so that data from output pins thereof are not transmitted onto the TDM bus.

19.   A method as claimed in claim 17, wherein the standby ports are located on a first device in the standby mode and the active ports are located on a second device in the active mode.